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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,751	07/23/2001	Martin Vossiek	GR 99 P 1081 P	2679

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EXAMINER
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NGUYEN, NAM V

ART UNIT	PAPER NUMBER
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2635

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/910,751

Applicant(s)

VOSSIEK ET AL.

Examiner

Nam V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4 and 6</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

The application of Vossiek et al. for a "configuration for generating a response signal, carrying an information item, to a received electromagnetic radiation, and method for generating the response signal" filed July 23, 2001 has been examined.

This application claims foreign priority based on the application 199 02 261.5 filed January 21, 1999 in Germany. Receipt is acknowledged of papers submitted under 35 U.S.C 119(a) – (d), which papers have been placed of record in the file.

This application is a CON of PCT/DE00/00128 filed January 14, 2000.

Claims 1-28 are pending.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4-9, 11, 13, 24 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Ghaem et al. (US# 5,457,447).

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Referring to claims 1 and 24, Ghaem et al. disclose a portable power source and RF tag utilizing same as recited in claims 1 and 24. See Figures 1-6, 9 and respective portions of the apparatus and method.

Ghaem et al. disclose a method and a configuration (10) (i.e. a RF tag) for generating an information-bearing response signal (i.e. identification code response signal) to a received electromagnetic radiation (column 2 lines 10 to 51; see Figure 1-6 and 9), comprising:

A receiver (12) (i.e. a power source) for the electromagnetic radiation (column 4 lines 51 to 60; see Figure 1);

A transducer (22-32) (i.e. a energy converter) coupled to the receiver (12) for changing the radiation (i.e. electromagnetic energy) into a storable secondary energy (i.e. electrical energy) (column 4 line 61 to column 5 line 9; column 6 line 67 to column 7 line 15; see Figures 2-7);

A storage device (54 or 148) (i.e. a capacitor) connected to said transducer (26) (for storing the storable secondary energy (electrical energy) (column 6 lines 44 to 59; see Figures 6 or 9);

A nonlinear element (150) (i.e. a diode) connected to said storage device (148) for generating a pulse-shaped radio-frequency signal from the storable secondary energy when a threshold value is reached in the storage device (150) (column 9 lines 16 to 43; see Figure 9).

A coding element (146) (i.e. a voltage comparator) connected to said nonlinear element (150) for impressing information (i.e. ID) on the radio-frequency signal to generate a response signal (column 9 line 43 to 50; see Figure 9); and

A transmitting antenna (142) connected to said coding element (146) for broadcasting the response signal (column 9 line 47 to 58; see Figure 9).

Referring to claim 4, Ghaem et al. disclose the configuration according to claim 1, wherein said receiver (12) is a radio receiver (column 39 to 51).

Referring to claim 5, Ghaem et al. disclose the configuration according to claim 1, wherein a photoelectric element (32) acts as said receiver and said transducer (column 5 lines 2 to 5; column 6 lines 18 to 23; see Figures 5 and 6).

Referring to claim 6, Ghaem et al. disclose the configuration according to claim 5, wherein said storage device stores electrical energy (column 4 line 51 to column 5 line 8).

Referring to claim 7, Ghaem et al. disclose the configuration according to claim 1, wherein a photovoltaic element (32) acts as said receiver and said transducer (column 6 lines 18 to 39; see Figures 5 and 6).

Referring to claim 8, Ghaem et al. disclose the configuration according to claim 7, wherein said storage device stores electrical energy (column 4 line 51 to column 5 line 8).

Referring to claim 9, Ghaem et al. disclose the configuration according to claim 1, wherein said storage device (54) is a capacitor (column 6 lines 44 to 59; see Figure 6).

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Referring to claim 11, Ghaem et al. disclose the configuration according to claim 1, wherein said receiver is an infrared receiver (22) (column 4 lines 61 to 23; column 6 lines 1 to 17; see Figures 4 and 6).

Referring to claim 13, Ghaem et al. disclose the configuration according to claim 1, wherein said nonlinear element (124 or 150) is a diode (column 6 lines 44 to 55; column 9 lines 28 to 33; see Figures 6 and 9)

Referring to claim 26, Ghaem et al. disclose the method according to claim 24, wherein the information item is an identification code (column 7 lines 37 to 43; column 9 lines 45 to 50).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-3, 23, 25 and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ghaem et al. (US# 5,457,447) as applied to claim 1 above, and in view of Discenzo (US# 6,304,176).

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Referring to claims 2-3 and 25, Ghaem et al. disclose the configuration according to claims 1 and 24, Ghaem et al. disclose wherein said transducer is a heating element (28) (column 4 line 61 to column 5 line 10 to 30; column 6 lines 40 to 42; see Figures 1 and 6), however, Ghaem et al. did not explicitly disclose wherein said storage device is a pyroelectrical element.

In the same field of endeavor of RF transponder, Discenzo teaches storage device is a pyroelectrical element (column 4 lines 44 to 67; column 6 lines 16 to 28) in order to produce an electric charge in response to thermal gradients.

One of ordinary skilled in the art recognizes using a pyroelectric element for a transducer with an energy storage device of Discenzo in an energy converter to provide electrical current responsive to incident heat energy of Ghaem et al. because Ghaem et al. suggest it is desired to provide that a storage energy to store electrical current from heat energy in the form of a thermocouple (column 6 lines 19 to 40) and Discenzo teach that using a pyroelectric or thermoelectric element to produce an electric charge in response to a thermal gradients (column 6 lines 19 to 28) in order to have a precise and efficient energy conversion transducer. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to use a pyroelectric element for a transducer with an energy storage device of Discenzo in an energy converter to provide electrical current responsive to incident heat energy of Ghaem et al. with the motivation for doing so would have been to provide more specific choice of energy converter for a RF transponder.

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Referring to claim 23, Ghaem et al. disclose the configuration according to claim 1, Discenzo discloses wherein said coding element is a sensor (column 3 lines 43 to 67; see Figure 1).

Referring to claims 27-28, Ghaem et al. disclose the configuration according to claim 24, Discenzo discloses further comprises impressing the information relating to a type or quantity of an environmental parameter on the radio-frequency signal with a sensor (12) that specifically reacts to the environmental parameter (column 7 lines 1 to 23).

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghaem et al. (US# 5,457,447) as applied to claim 1 above, and in view of Denne et al. (US# 4,114,151).

Referring to claim 10, Ghaem et al. disclose the configuration according to claim 1, however, Ghaem et al. did not explicitly disclose wherein said storage device is an electrochemical storage element.

In the same field of endeavor of passive RF transponder, Denne et al. teach storage device (162) is an electrochemical storage element (column 5 lines 13 to 24; see Figure 2) in order to store an electric charge in response to electromagnetic energy.

At the time the invention, it would have been obvious to a person of ordinary skill in the art to recognize using an electrochemical charge storage device of energy reservoir of Denne et al. in the charge storage capacitor of Ghaem et al. because using an electrochemical charge



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storage device would improve the reliable and lasting for an energy storage device that has been shown to be desirable in a portable power source of Ghaem et al.

Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ghaem et al. (US# 5,457,447) as applied to claim 1 above, and in view of Duffy et al. (US# 5,745,322).

Referring to claims 12 and 14, Ghaem et al. disclose the configuration according to claim 1, however, Ghaem et al. did not explicitly disclose wherein said nonlinear element is a spark gap or a gas discharge tube.

In the same field of endeavor of energy converter protector, Duffy et al. teach a nonlinear element (106 or 118) (i.e. bypass element) is a spark gap or a gas discharge tube (column 8 lines 19 to 26; column 14 lines 15 to 18; see Figures 7-8) in order to protect or control the circuit in the system due to high over current condition or an increase in voltage.

At the time the invention, it would have been obvious to a person of ordinary skill in the art to recognize using a spark gap or a gas discharge tube of Duffy et al. in a diode to rectify the alternating current to pulsating direct current of Ghaem et al. because using a spark gap or a gas discharge tube would improve the reliable and efficient for a current through a component undergoes a corresponding non-linear characteristic that has been shown to be desirable in a rectifying circuit of a portable power source of Ghaem et al.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghaem et al. (US# 5,457,447) as applied to claim 1 above, and in view of Pacholok (US# 5,645,137).

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Referring to claim 15, Ghaem et al. disclose the configuration according to claim 1, however, Ghaem et al. did not explicitly disclose wherein said nonlinear element is an avalanche semiconductor.

In the same field of endeavor of energy converter protector in a remote device, Pacholok teaches a nonlinear element (152) is an avalanche semiconductor (column 2 lines 45 to 56; column 4 lines 14 to 26; see Figure 3) in order to protect or rectify the circuit in portable device.

At the time the invention, it would have been obvious to a person of ordinary skill in the art to recognize using an avalanche semiconductor of Pacholok in a diode to rectify the alternating current to pulsating direct current of Ghaem et al. because using an avalanche semiconductor would improve the reliable and efficient for a current through a component undergoes a corresponding non-linear characteristic that has been shown to be desirable in a rectifying circuit of a portable power source of Ghaem et al.

Claims 16-17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ghaem et al. (US# 5,457,447) as applied to claim 1 above, and in view of Scholl et al. (US# 5,691,698).

Referring to claims 16-17 and 20, Ghaem et al. disclose the configuration according to claim 1, however, Ghaem et al. did not explicitly disclose wherein said coding element is a SAW component or resonator configuration or a coaxial ceramic filter.

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In the same field of endeavor of a passive transponder, Scholl et al. teach a coding element (6) is a SAW component, resonator configuration or a coaxial ceramic filter (column 1 line 15 to 37; column 3 lines 65 to column 4 line 35; see Figures 2-3) in order to transmit a digital code signal to a remote receiver.

At the time the invention, it would have been obvious to a person of ordinary skill in the art to recognize using a coaxial resonator, a SAW component or a resonator of Scholl et al. in a voltage comparator to transmit identification code signal of Ghaem et al. because using a coaxial resonator, a SAW component or a resonator would improve the reliable and efficient for transmitting a unique signal to an interrogator that has been shown to be desirable in a transmitter of a portable RF transponder of Ghaem et al.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghaem et al. (US# 5,457,447) as applied to claim 1 above, and in view of Epstein (US# 4,059,831).

Referring to claim 18, Ghaem et al. disclose the configuration according to claim 1, however, Ghaem et al. did not explicitly disclose wherein said coding element is a delay line.

In the same field of endeavor of a passive transponder, Plows teaches a coding element (34) is a delay line (column 2 lines 20 to 38; column 2 line 60 to column 3 line 28; see Figures 1-3) in order to transmit a digital code signal to a remote receiver.

At the time the invention, it would have been obvious to a person of ordinary skill in the art to recognize using a delay line to utilize a digital coded signal of Epstein in a voltage comparator to transmit identification code signal of Ghaem et al. because using a delay line

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would improve the reliable and efficient for transmitting a unique signal to an interrogator that has been shown to be desirable in a transmitter of a portable RF transponder of Ghaem et al.

Claims 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ghaem et al. (US# 5,457,447) as applied to claim 1 above, and in view of Watanabe et al. (US# 6,025,761).

Referring to claims 19 and 22, Ghaem et al. disclose the configuration according to claim 1, however, Ghaem et al. did not explicitly disclose wherein said coding element is a dielectric filter or an LC filter.

In the same field of endeavor of a passive transponder, Watanabe et al. teach a coding element (i.e. transmitter) is a dielectric filter or an LC filter (column 1 lines 34 to 38; column 3 lines 1 to 7; see Figures 1-7) in order to generate required frequencies.

At the time the invention, it would have been obvious to a person of ordinary skill in the art to recognize using a dielectric filter or an LC filter in transmitter of a portable telecommunication equipment of Watanabe et al. in a voltage comparator to transmit identification code signal of Ghaem et al. because using a dielectric filter or an LC filter would improve the efficiencies and flexibilities for transmitting a unique signal to an interrogator that has been shown to be desirable in a transmitter of a portable RF transponder of Ghaem et al.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghaem et al. (US# 5,457,447) as applied to claim 1 above, and in view of Nysen (US# 5,986,382).

Referring to claim 21, Ghaem et al. disclose the configuration according to claim 1, however, Ghaem et al. did not explicitly disclose wherein said coding element is a volume transducer.

In the same field of endeavor of a passive transponder, Nysen teaches a coding element (6) is a volume transducer (i.e. an electroacoustic transducer) (column 1 lines 12 to 25; column 10 lines 1 to 34) in order to transmit an individual response signal to a remote receiver.

At the time the invention, it would have been obvious to a person of ordinary skill in the art to recognize using an electroacoustic transducer of Nysen in a voltage comparator to transmit identification code signal of Ghaem et al. because using an electroacoustic transducer would improve the effectiveness and efficient for transmitting a unique response signal to an interrogator that has been shown to be desirable in a transmitter of a portable RF transponder of Ghaem et al.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Stafford (US# 5,825,302) discloses a system and method for transmitting data using reflected electromagnetic radiation.

Brooks et al. (US# 5,485,154) disclose a communication device and method(s).

Murdoch (US# 5,153,583) discloses a transponder.

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Giles et al. (US# 5,028,918) disclose an identification transponder circuit.

Plows (US# 4,242,671) discloses transponders.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nam V Nguyen whose telephone number is 703-305-3867. The examiner can normally be reached on Mon-Fri, 8:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on 703-305-4704. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Nam Nguyen  
February 12, 2004



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